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Appl. No. 10/613,007
Amendment dated January 7, 2005
Reply to Office Action of September 7, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (currently amended) A gas turbine engine comprising a main fluid flow path, a compressor forming a portion of said main fluid flow path, at least one passagefirst and second passages for bleeding compressor air from said fluid flow path, and a compressor bleed valve system comprising a bladder inflatable between at least a collapsed position and an expanded position for controlling a flow of compressor air from said main fluid flow path through said at least one passagefirst and second passages. said bladder including at least two inflatable segments selectively inflatable relative to one another for controlling fluid flow through a respective one of said first and second passages.
2. (currently amended) A gas turbine engine as defined in claim 1, wherein said at least one passageis first and second passages are at least partly opened when the bladder is deflated to said collapsed position thereof, and wherein said at least one passageis first and second passages are closed when said bladder is inflated to said expanded position thereof.
3. (currently amended) A gas turbine engine as defined in claim 2, wherein said bladder acts as an inflatable seal to sealingly close said at least one passagefirst and second passages when inflated to said expanded position.
4. (currently amended) A gas turbine engine as defined in claim 3, wherein said at least one passagefirst and second passages includes a plurality of spaced-apart passages, and wherein said bladder simultaneously seals at least two of said plurality of spaced-apart passages, when inflated to said expanded position.
5. (currently amended) A gas turbine engine as defined in claim 4, wherein said plurality of passages includes first and second series of passages, and wherein said bladder includes at least two independently inflatable segments, each segments sealing a respective ones of said first and second series of passages.

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6. (currently amended) A gas turbine engine as defined in claim 51, wherein said at least two ~~independently-inflatable~~ segments are in fluid flow communication with a source of fluid pressure via a control valve, said control valve being displaceable between at least a first position wherein both said inflatable segments are connected in fluid flow communication with said source of fluid pressure and a second position wherein only a selected one of said inflatable segments is connected in fluid flow communication with said source of fluid pressure.

7. (currently amended) A gas turbine engine as defined in claim 4, wherein said plurality of spaced-apart passages includes a row of circumferentially distributed passages, and wherein said bladder is positioned radially outwardly of said row of circumferentially distributed passages, said bladder being expandable radially inwardly towards said row of passages for controlling the flow of compressor air therethrough.

8. (currently amended) A gas turbine engine as defined in claim 7, wherein said bladder ~~includes first and second~~ ~~at least two~~ ~~inflatable~~ segments are circumferentially oppositely extending boot segments, each boot segment being expandable to sealingly cover a respective series of passages ~~disposed relative to one another~~.

9. (original) A gas turbine engine as defined in claim 7, wherein said bladder is expandable radially inwardly from a support ring mounted between a by-pass flow path and said main fluid flow path.

10. (currently amended) A gas turbine engine as defined in claim 1, wherein said bladder ~~includes~~ ~~at least two~~ ~~inflatable~~ segments cooperate to form a circumferentially extending boot positioned about said main flow path, said boot being expandable radially inwardly to sealingly cover said at least one ~~passage~~ ~~first and second~~ passages.

11. (currently amended) A combination compressor bleed valve actuation and seal system for bleeding air from a gas turbine engine compressor, wherein the gas turbine engine compressor has at least ~~one~~ ~~two~~ airbleed passages; the system comprising: a seal ~~inflatable~~ between ~~at least a collapsed position, wherein said airbleed passage is opened, and an expanded position, wherein said seal closes said airbleed passage in order to prevent pressurized air from being bled off the gas turbine engine compressor~~ ~~including at least first~~

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and second boot segments independently inflatable for selectively opening and closing respective ones of the at least two airbleed passages.

12. (currently amended) A combination as defined in claim 1211, wherein said seal is mounted to a circumferentially extending seal carrier, said seal projecting radially inwardly of said seal carrier when inflated to said expanded position.

13. (cancelled)

14. (cancelled)

15. (currently amended) A combination as defined in claim 1411, wherein said first and second inflatable boot segments extend in circumferential opposite directions about said at least one airbleed passage.

16. (currently amended) A combination as defined in claim 1511, wherein said first and second boot segments are in fluid flow communication with a source of fluid pressure via a control valve, said control valve being displaceable between at least a first position wherein both said first and second boot segments are connected in fluid flow communication with said source of fluid pressure and a second position wherein only a selected one of said boot segments is connected in fluid flow communication with said source of fluid pressure.

17. (currently amended) A combination compressor bleed valve actuation and seal system for bleeding air from a gas turbine engine compressor, wherein the gas turbine engine compressor has at least one-two airbleed passages; the system comprising a bladder including first and second boot segments separately inflatable between at least a collapsed position and an expanded position for selectively opening and closing respective ones of said at least one two airbleed passages.

18. (currently amended) A combination as defined in claim 1817, wherein said bladder acts as an inflatable seal to sealingly close said at least one passage when inflated to said expanded position.

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19. (currently amended) A combination as defined in claim 19-18, wherein said inflatable seal is mounted to a circumferentially extending seal carrier, said seal projecting radially inwardly of said seal carrier when inflated to said expanded position.

20. (cancelled)

21. (cancelled)

22. (currently amended) A combination as defined in claim 24-17, wherein said first and second inflatable boot segments extend in circumferential opposite directions about said at least one-two airbleed passages.

23. (currently amended) A combination as defined in claim 24-17, wherein said first and second boot segments are in fluid flow communication with a source of fluid pressure via a control valve, said control valve being displaceable between at least a first position wherein both said first and second segments are connected in fluid flow communication with said source of fluid pressure and a second position wherein only a selected one of said boot segments is connected in fluid flow communication with said source of fluid pressure.

24. (currently amended) A method of bleeding air from a gas turbine engine compressor, the compressor including a main air flow path in communication with a plurality of bleed passages, the method comprising the steps of: a) providing an inflatable member having at least first and second separately inflatable boot segments, each segment defining a pressurizable chamber, and b) selectively varying an internal fluid pressure of said pressurizable chamber of said separately inflatable boot segments to control an air flow from said main air flow path through said bleed passages.

25. (currently amended) A method as defined in claim 25-24, wherein step b) comprises the step of inflating said inflatable member at least a selected one of said boot segments to an expanded position wherein said inflatable member at least selected one of said boot segments substantially sealingly closes at least some of said bleed passages.

26. (currently amended) A method as defined in claim 26-25, wherein said inflatable member includes first and second sealing boot segments, each segment covering a

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series of bleed passages, and wherein step b) further comprises the steps of selecting the series of bleed passages to be closed and inflating at least one of said first and second sealing ~~beets-boot segments~~ in accordance with the selected series of ~~air~~ bleed passages.

27. (currently amended) A method as defined in claim 2524, wherein said inflatable member includes a sealing boot extending about said main air flow path, and wherein step b) comprises the steps of expanding said sealing boot radially inwardly towards said bleed passages in order to incrementally limit the flow of air passing from said main air flow path through said bleed passages.